

Northcentral University – NCU HCM University of Industry - HUI

BBA Articulation Program

**BUSINESS RESULT OF PETROLIMEX
CORPORATION IN VIETNAM**

Subject BUSINESS MATHEMATICS

Code BM . SM . 08 . F2

SEMINAR

HCMC - 2008

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HCMC - 2008

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ABSTRACT

The purpose of our seminar is to research business results of Petrolimex Corporation in Vietnam from 2002 to the first six months of the year 2008. We apply mathematical methods of College Algebra and Business Mathematic subject to predict the import prices of fuel in the last months of the 2008. After research process, we determined business result reality of Petrolimex throughout many years. We can define that Petrolimex is still the biggest Petrol Organization in Vietnam, nowadays.

ACKNOWLEDGMENTS

We would like to thank our professor Co Hong Tran , for us guidance and support throughout the course of this research.

Thanks also to our colleagues at the Northcentral University, our friends and various organizations at Hochiminh city especially for making our time here a great experience.

Finally, we would like to express our sincere gratitude to our parents, teachers and friends across the globe for continuous support and encouragement.

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REFERENCES

Web links :

1. <http://www.petrolimex.com.vn/>
2. <http://vietnamnet.vn/chinhtri/hoso/2005/12/519838/>
3. <http://www.mottramdo.com/blog/viewblog/46815/>
4. http://www1.vinabull.com/NewsDetail.aspx?newsid=13396&cat_id=7
5. <http://www.mofa.gov.vn/>
6. <http://www.duc-anh.com/GL/Kinh-doanh/2005/03/3B9DC66A/>
7. <http://www.tinhoctaichinh.vn/Home/ThongKe-DuBao/2008/8/20514.dfis>
8. <http://giadinhh.net.vn/html/>
9. <http://tintucnangluong.blogspot.com/>
10. <http://vietbao.vn/The-gioi-giai-tri/Loi-4-ty-dong-tu-xang-pha-aceton/50760541/411/>
11. <http://giaxaydung.vn/diendan/du-lieu-khac/>
12. <http://vietnamnet.vn/>
13. <http://www.nld.com.vn/tintuc/kinh-te/thi-truong/>
14. <http://vneconomy.vn/home/tin-tuc/>
15. <http://www.laodong.com.vn/Home/kinhte/2006/9/4132.laodong>
16. <http://kinhte24h.com/index.php?page=news&id=12939>
17. <http://vn.answers.yahoo.com/question/index?qid=20080723054002AAvwsym>
18. <http://www.customs.gov.vn/>

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By COHONGTRAN at 3:25 pm, Nov 28, 2008

1. Introduction

1.1. Global Petrol Market fluctuation

According to the statistic research of the International Power Organizations, the global oil reserves are approximate from 2,050 to 2,390 million barrels, i.e 270 to 323 million tons. Middle East area possesses a half part of the world oil reserves (petrol); especially Saudi Arabia possesses a quarter of the total. Until now we have consumed about 45% to 70% of the world oil reserves i.e equivalent from 923 to 1673 billion barrels.

OPEC (Organization of Petroleum Exporting Countries) including Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela have been supplying about 40% crude oil, and possessed $\frac{2}{3}$ of the global oil reserves. Moreover other nations such as USA, Russia, Mexico, Canada and China also have affected to the supply of the crude oil reserves in whole the world. The productivity of the crude oil has been changed depending on either subjective or objective behavior of the fuel export nations. Besides that, the petrol price fluctuates every hour and would be often impacted by political event of the countries which have the deep effectiveness. In other words, the world situation is more complex, the global petrol market is more stressful and instable. Although OPEC interfered to stabilize the oil price but the fluctuation increases more and more and it has not stopped. The oil price comes to the new record level of 147.8 USD/barrel. This matter affects to the world wide activities so much and the Vietnam economy is impacted seriously.

1.2. Petrol market in Vietnam

Today, Vietnam is a crude oil export country, but the government has paid billions VND to import petrol every year. The usual petrol in our country is being imported 100% from other nations (such as: Singapore, Taiwan, Korea...). A big problem of petrol companies in Vietnam is the world market price of gasoline increasing higher and higher. This is the main reason influenced to the economic development in Vietnam. It makes an effect to the market price, the Consumer Price Index (CPI) and the inflation. Thus, the Vietnamese government has policies to support the petrol importation activities, stabilize the market price and control the rate of inflation.

From 2002 to the first six months of 2008, the government has changed the import tax rate in gas trading many times. See table 1.2.1

YEAR	AVERAGE IMPORT TAX RATE
2002	30%
2003	25%
2004	10%
2005	5%
2006	20%
2007	5%
The first half of 2008	0%

Table 1.2.1. *The import tax rate in gas trading*

Besides that, the government has the subsidy policy to support for the petrol trading. The table 1.2.2 and figure 1.2.1 below includes subsidy provided in which Petrolimex has taken 60% of the total value.

YEAR	SUBSIDY FROM THE GOVERNMENT (BILLION VND)
2002	0
2003	175.67
2004	5010
2005	9133
2006	8305
2007	13846.67 (Billion VND)
The first half of 2008	15009.17 (Billion VND)

Table 1.2.2. *The amount of subsidy for gas trading from Vietnam government*

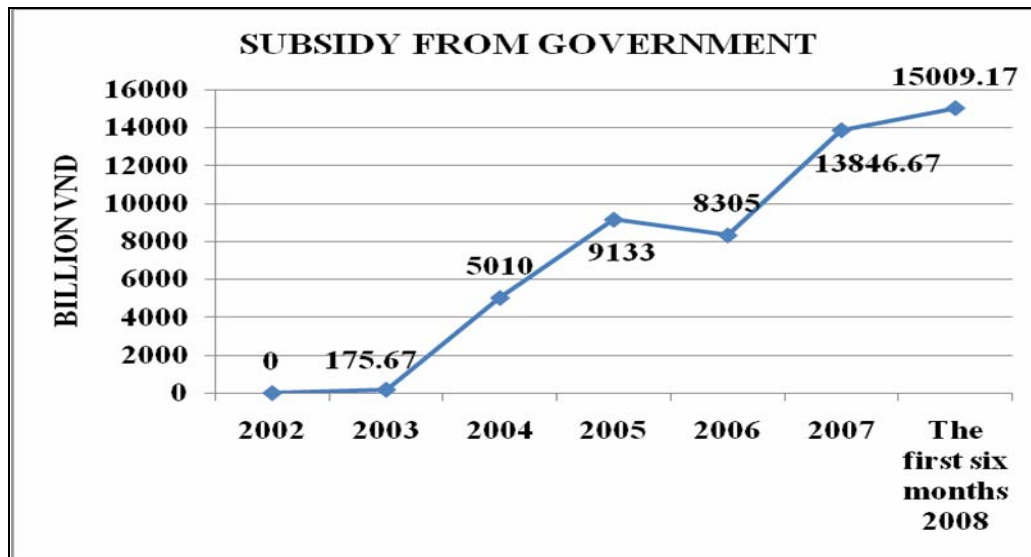


Fig 1.2.1. The chart illustrates amount of subsidy (Billion VND) for gas trading

1.3. Introduction to the Petrolimex



The Petrolimex is the biggest enterprise in Vietnam dealing in petroleum and petro-chemical downstream sector. At present, there are 43 member companies, 25 branches and 9 enterprises with 100% state-owned capital. Besides there are 20 joint stock companies in which Petrolimex has predominant shares; 3 joint ventures with foreign companies.

Gasoline is the main business of Petrolimex. Every year, Petrolimex imports 7-8 million tons of oils from Singapore, to supply 60 % of gas products to the domestic market. The average turnover from oil trading per year is more than 25,000 billion VNDs, approximately 80 % of the total

turnover of the whole branch.

The period from 2002 to present:

The field of oil products has changes in the world and the oil price always changes too. It has the influences to the oil market in Vietnam and business situation of Petrolimex especially. Because of the increasing price, and although it has the support policy from the government, but Petrolimex is facing up with the difficulties in business. However, Petrolimex always maintains to supply the fuel with the international registered standards, efficiently to the national industrialization and modernization process.

2. Research processing

2.1. Collecting information

	2002	2003	2004	2005	2006	2007	The first six month 2008
Total amount of mogas and oil imported of Vietnam (million ton)	9.47	10.82	11.01	11.76	11.24	11.39	7.1
Total amount of mogas imported of Vietnam (million ton)	1.8	2.012	2.594	2.734	2.764	3.09	1.805
Total amount of oil imported of Vietnam (million ton)	7.67	8.808	8.416	9.026	8.476	8.3	5.295
Total amount of mogas and Oil imported by Petrolimex (60% of total volume nation (million ton)	5.682	6.492	6.606	7.056	6.744	6.834	4.26
Total amount of mogas imported by Petrolimex which take 60% of total volume nation (million ton)	1.08	1.2072	1.5564	1.6404	1.6584	1.854	1.083
Total amount of mogas imported of Petrolimex which take 60% of total volume nation (million ton)	4.602	5.2848	5.0496	5.4156	5.0856	4.98	3.177
Mogas price imported (USD/barrel)	23.7	29.5	44.08	56.35	63.5	74.5	113.94
Transport fee mogas (oil) imported (USD/barrel)	1.8	2.2	2.4	3.2	4	4.5	5
VAT tax	10%	10%	10%	10%	10%	10%	10%
Specialty consume tax	10%	10%	10%	10%	10%	10%	10%
Import tax	30%	25%	10%	5%	20%	5%	-
Business' profit tax	32%	-	-	-	-	-	-
Government's subsidy (million VND)	-	105,400	3,006,000	5,480,000	4,941,000	8,308,000	9,005,500
Rate monetary VND/USD	15,600	15,635	15,450	15,810	15,395	16,080	16,485
Amount of labors	19,845	20,900	21,609	21,954	22,309	22,645	22,990

Table 2.1.1. The general data from import petrol activities in Vietnam

2.2. Mathematical methods in trade research

2.2.1. Calculating the break even, profit and loss

Ref (Table 2.2.1)

Use `break_even.mws`

```
break_even(82411222,[OPERATING_EXPENSES,6.522],BREAK_EVEN);
```

INPUT DATA

```
[ COST, OPERATING_EXPENSES, BREAK_EVEN ] =  
[ 82411222 , [ OPERATING_EXPENSES, 6.522 ], BREAK_EVEN ]
```

```
" $ ", COST = 82411222
```

```
" $ ", OPERATING_EXPENSES = [ OPERATING_EXPENSES, 6.522 ]
```

```
" OPERATING_EXPENSES : ( OE ) $ = ",.5374859899 107
```

```
" BREAK-EVEN = COST + OPERATING_EXPENSES ($) ,.8778608190 108
```

	2002	2003	2004	2005	2006	2007	First six months 2008
Cost of Petrolimex (Million VND)	26059903	35213390	46894952	62538277	78117525	88879516	82411222
Operating expense (Million VND)	1354424	1881181	2809317	3867179	4326617	5492081	5374837
Operating expense/cost (%)	5.2	5.3	6	6.18	5.54	6.18	6.52
Breakeven point (Million VND)	27415018	37094571	49704269	66405456	82444142	94371597	87786059

Table 2.2.1. Cost – operating expense and break even

2.2.2. Calculating the gross loss and operating loss

Ref (table 2.2.2)

Use **loss.mws****> loss(82411222,82593499,87786059);**-----
INPUT DATA:

[COST, REDUCED_SELLING_PRICE, BREAK_EVEN] =
[82411222, 82593499, 87786059]

" \$ ", COST = 82411222 " \$ ", REDUCED_SELLING_PRICE = 82593499

" \$ ", BREAK_EVEN = 87786059 " OPERATING LOSS (OL) (\$) : ", 5192560

	2002	2003	2004	2005	2006	2007	2008
Cost (Million VND)	26059903	35213390	46894952	62538277	78117525	88879516	82411222
Operating expense (Million VND)	1354424	1881181	2809317	3867179	4326617	5492081	5374837
Break even (Million VND)	27414327	37094571	49704269	66405456	82444142	94371597	87786059
T otal revenue (Million VND)	33295359	39248305	49616696	66024925	82231159	90891688	82593499
Gross loss	0	0	0	0	0	0	0
Operating loss (Million VND)	0	0	87573	380531	212983	3479909	5192560

Table 2.2.2. Cost – operating expense – break even – gross loss – operating loss

2.2.3. Calculating the account series for retails

	2003	2003	2004	2005	2006	2007	2008
Discount at area 1 (%)	0	0	0	0	0	0	0
Discount at area 2 (%)	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Selling price at the market (VND / L)	5600	5840	7200	9200	11650	11880	14650
Selling price at area 2 (VND / L)	5545	5780	7130	9105	11530	11608	14500

Table 2.2.3. *Discount – selling price*

Ref (Table 2.2.3)

Use `net_cost_series_disct.mws`> `net_cost_series_disct(5600,2,[0,0.98]);`

```

" The given list price : ($) , 'List_Price = 5600
" Rate of Discount (RD), "1 RD1 = 0, "%
" Complement of Rate of Discount (CRD) " , CRD1 = 1
" Multiply complements (MC) % " , MC1 = 1, " or : " , 1.

```

2.2.4. Calculating the Mark-up based on cost

	2002	2003	2004	2005	2006	2007	2008
Average cost of petrol (VND/liter)	3775	4563	6022	7616	9299	10269	15327
Price of 1L petrol (VND/liter)	5600	5840	7200	9200	11650	11800	14650
Markup (VND/liter)	1825	1277	1178	1584	2351	1531	-

Table 2.2.4. *Average cost – markup based on cost*

Ref (Table 2.2.4)

Use `markup_based_on_sellingprice_VALUE.mws``markup_based_on_sellingprice_VALUE(3775,0,5600);`

The data inputs given:

`[COST, MARKUP, SELLING_PRICE] = [3775, 0, 5600]``" $ ", COST = 3775 ; " $ ", MARKUP = 0 ; " $ ", SELLING_PRICE = 5600``" The C_M_S equation is written in the form : COST + MARKUP = SELLING_PRICE "``" MARKUP = SELLING_PRICE - COST " MARKUP = $,1825``" percent of MARKUP = ", 73/224, " or % ", 32.58900``" COST = $,3775 " percent of COST = ", 151/224, " or % ", 67.41100`

2.2.5. Calculate the discount fee on amount of petrol and oil imported.

Use the formula: Discount charge = Total Value imported \times % fee

Discount charge of total import value (petrol)

	2002	2003	2004	2005	2006	2007	2008
Amount of petrol import (million tons)	1.08	1.2072	1.5564	1.6404	1.6584	1.854	1.083
Import price (USD/ton)	201.45	250.75	374.68	478.975	539.75	633.25	968.49
Discount (%/ton)	2	2	2	2	2	2	2
Amount of discount (million USD)	4.35132	6.05411	11.663	15.7142	17.9024	23.4809	20.9774

Table 2.2.5.1 *Discount fee of total petrol import value*

Discount charge of total import value (oil)

	2002	2003	2004	2005	2006	2007	2008
Amount of oil imported (million tons)	4.602	5.2848	5.0496	5.4156	5.0856	6.486	3.177
import price (USD/ton)	187	226.695	335.75	422.705	518.925	628.15	960.5
Discount (%/ton)	2	2	2	2	2	2	2
Amount of discount (Million USD)	17.2115	23.96075	33.9081	45.7840	52.7809	81.484	61.03

Table 2.2.5.2. *Discount fee of total oil import value*

3. Estimating the results

3.1. The graphical and numerical results

3.1.1. Quantity of petrol imported

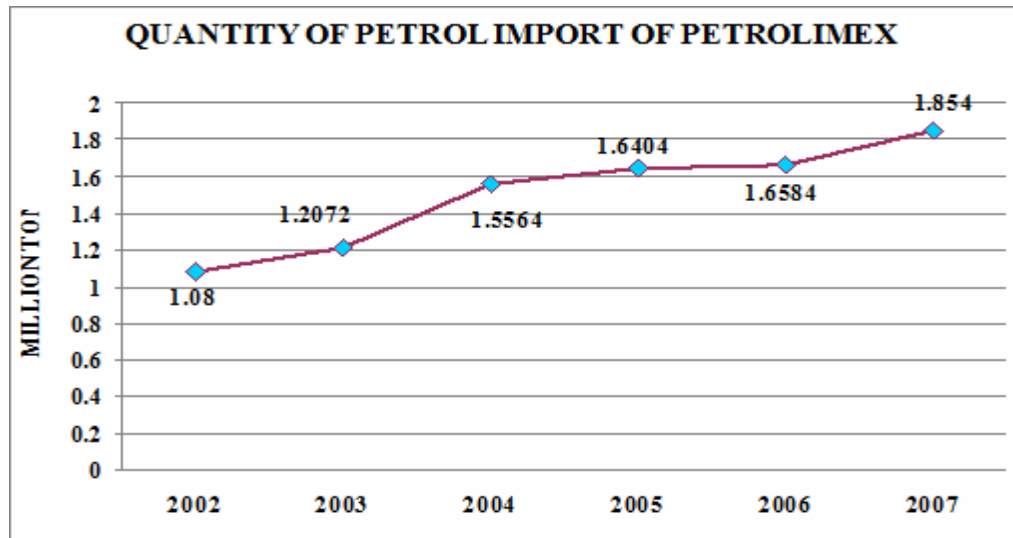


Fig 3.1.1. The quantity of petrol imported of Petrolimex

Generally, total quantity of petrol imported of Petrolimex during 6 years is approximately 9 million tons. We recognize that quantity of petrol imported in 2007 raised 0.774 million tons (71.67%) in comparison with the quantity in 2002

Over each year quantity imports always rises. See the following details:

2003: an increase of 11.77% in comparison with the same period 2002.

2004: an increase of 28.93% in comparison with the same period 2003.

2005: an increase of 5.4% in comparison with the same period 2004.

2006: an increase of 1.1% in comparison with the same period 2005.

2007: an increase of 11.8% in comparison with the same period 2006.

Finally, the average increase level is 11.41% (i.e 0.12 million tons) every year.

3.1.2. Quantity of oil import of Petrolimex

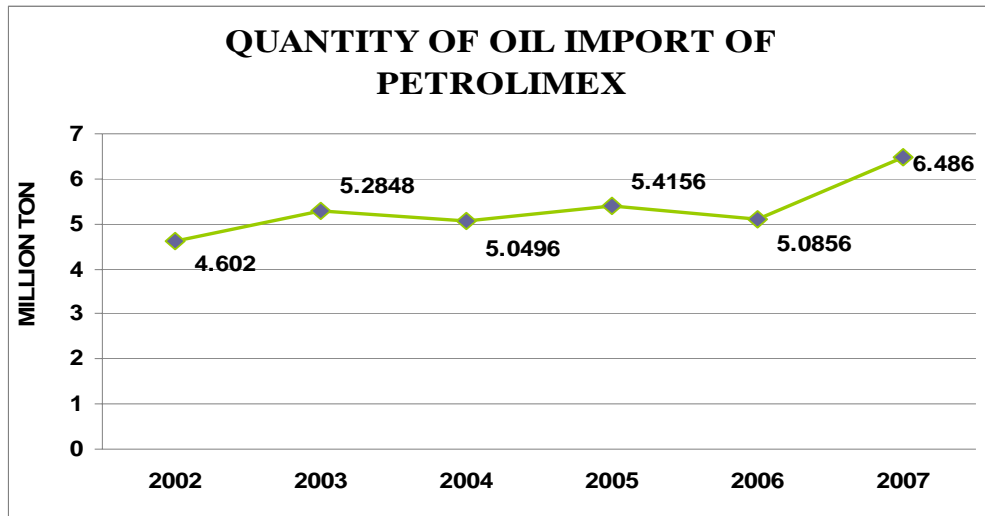


Fig 3.1.2. The quantity of oil import of Petrolimex

Generally, total quantity of petrol import of Petrolimex in 6 years is 31.92 million tons. The quantity of petrol imported in 2007 raised 1.884 million tons (40.94%) compare with 2002.

Over each year quantity imports always rise. See the following details:

2003: an increase of 14.84% % in comparison with the same period 2002.

2004: a decrease of 4.45% in comparison with the same period 2003.

2005: an increase of 7.25% in comparison with the same period 2004.

2006: a decrease of 6.1% in comparison with the same period 2005.

2007: an increase of 27.54% in comparison with the same period 2006.

Finally, the average increase level is 7.1% every year (about 0.33 million tons).

Notice that is only in the first six months in 2008, the quantity of import petrol of Petrolimex extended 4.26 million tons (increase 65.7% to compare with 2007).

3.1.3. The import petrol price of Petrolimex

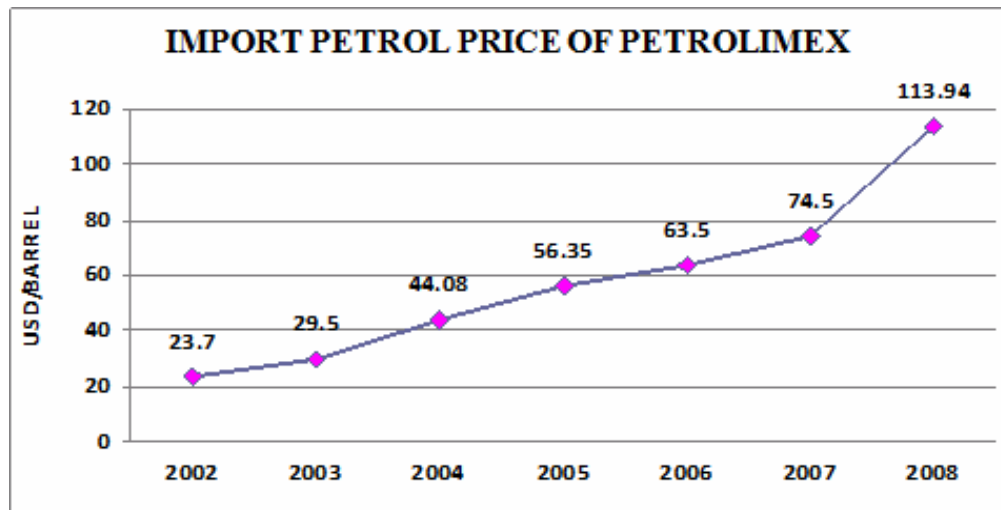


Fig 3.1.3. The import petrol price

From 2002 to 2007 the petrol imported price of Petrolimex increased regularly about 8 - 14 USD/barrel, especially from 2007 to 2008 this increasing level is rather high, over 28.44 USD/barrel.

From this graph, over each year we can see clearly the difference level as following:

Price 2003: in comparison with 2002 is 5.8 USD/barrel equivalent 24.47%.

Price 2004: in comparison with 2003 is 14.58 USD/ barrel equivalent 49.42%.

Price 2005: in comparison with 2004 is 12.27 USD/ barrel equivalent 27.84%.

Price 2006: in comparison with 2005 is 7.15 USD/ barrel equivalent 12.69%

Price 2007: in comparison with 2006 is 11 USD/ barrel equivalent 17.32%.

Price of the first six month 2008 in comparison with 2007 is 39.44 USD/ barrel equivalent 52.94%.

Through the details above, we may conclude that: the increases average rate of the world oil price is 15.4 USD/barrel approximately 29.9%. The data shows that the world oil price of first half of 2008 has increased 91 USD/barrel i.e 413.6% in the comparison with the oil price in 2002. It proves that the world oil price is increasing everyday.

3.1.4. The import oil price of Petrolimex.

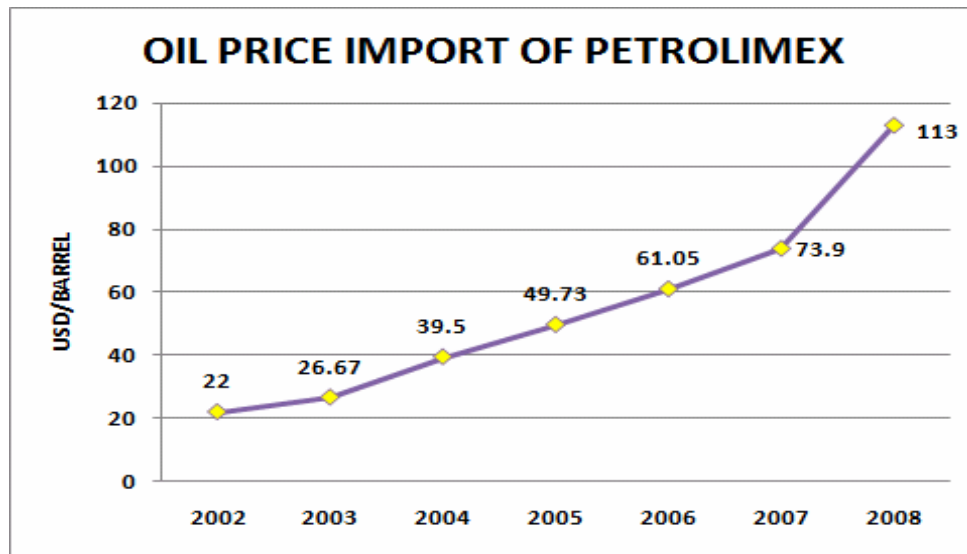


Fig 3.1.4. The import oil price

Generally we can see from 2002 to 2007 the oil price imported rate increases regularly about 8 – 14 USD/barrel, especially from the last 2007 to the first half of 2008 it was very high (26.25USD/ barrel).

By this graph we can see these rates as following:

2002 - 2003: the difference is 4.67 USD/ barrel equivalent 21.23%.

2003 - 2004: the difference is 12.83 USD/ barrel equivalent 48.11%.

2004 - 2005: the difference is 10.23 USD/ barrel equivalent 25.9%.

2005 - 2006: the difference is 11.32 USD/ barrel equivalent 22.76%.

2006 - 2007: the difference is 12.85 USD/ barrel equivalent 21.04%.

2007 - first half of 2008 the difference is 39.1 USD/ barrel equivalent 52.91%.

Through the details above we may conclude that the increases average rate is 15.17 USD/ barrel i.e 31.4%. Moreover the data shows us the price of the first half of 2008 has an increase of 91 USD/barrel in comparison with 2002 i.e 413.6%. Hence, the world oil price does not have any stop signal.

3.1.5. The oil price in Vietnam market

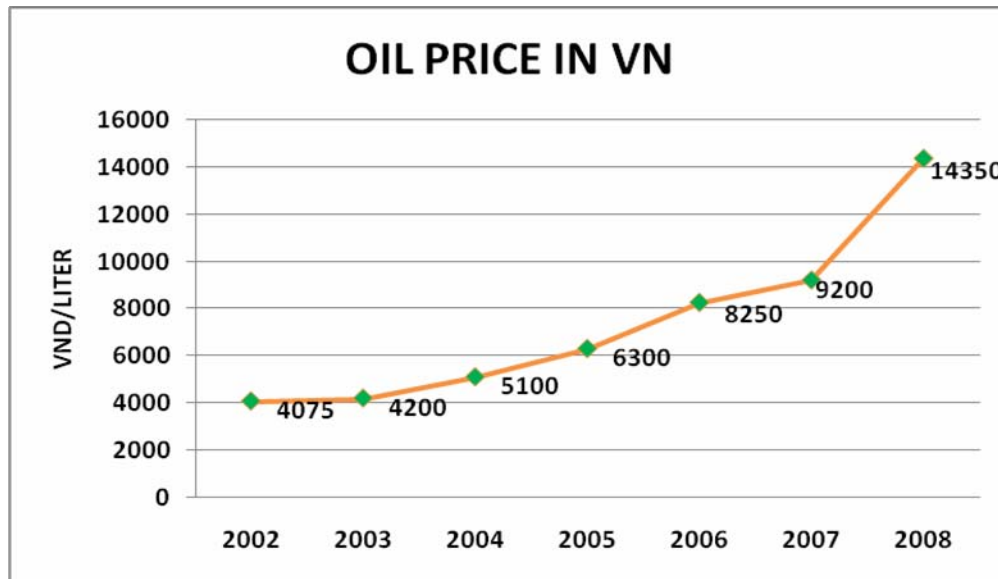


Fig 3.1.5. The oil price in Vietnam

From the data researched, the average oil price in Vietnam can be described as follows

In 2002 the oil price was 4075 VND/liter, when the import oil price was 22 USD/barrel.

In 2003, the government increased the average oil price to 4200 VND/liter, it was 3.1% higher than the price in 2002.

In 2004, the average oil price was 5100 VND/liter, increased 21% in comparison with 2003 and the import oil price was 39.5 USD/barrel.

In 2005 the oil price increased 1200VND/liter, the retail price came to 6300 VND/liter i.e increased 23.5%.

In 2006 the world oil price was 61.05 USD/barrel, the average oil price increased 31% in comparison with 2005.

In 2007, the average oil price was 9200 VND/liter, increased 11.5% in comparison with 2006.

In the first half of 2008 the import oil price increased highly 113 USD/barell, average oil price was 14350 VND/liter and it increased 56% in compare with the last year.

3.1.6. The petrol price in Vietnam market

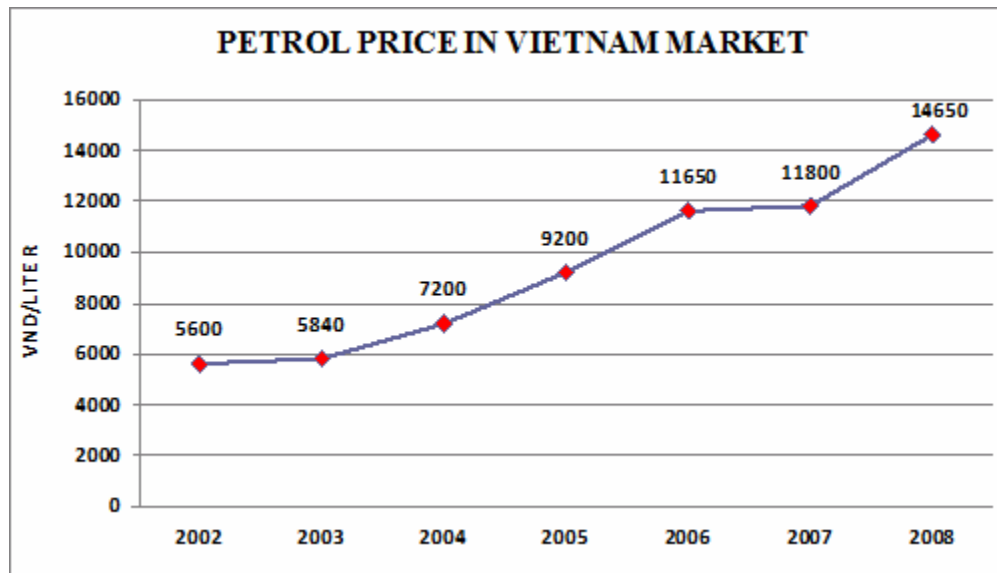


Fig 3.1.6. The petrol price in Vietnam

Petrol is one of products which mostly has the instable price in Vietnam

In 2002, the average petrol price was 5600 VND/liter while the import price was 23.7 USD/barrel.

In 2003 the aveage petrol price increased 4.3% it equals to 5840 VND/liter.

In 2004, the government continued to adjust the petrol price of 7200 VND/liter, increased 23.3% in comparison with the last year.

In 2005, the petrol price was 9200 VND/liter, increased 27.8% in comparison with 2004 – It was the highest rate within the past 6 years

In 2006, the petrol price was 11650 VND/liter, increased 26.6% in comparison with the last year.

In 2007 the petrol price was 11800 VND/liter.

In first six months of 2008, the petrol price was 14650 VND/liter, increased 24.2% in comparson with 2007.

3.1.7. The difference between cost and selling price

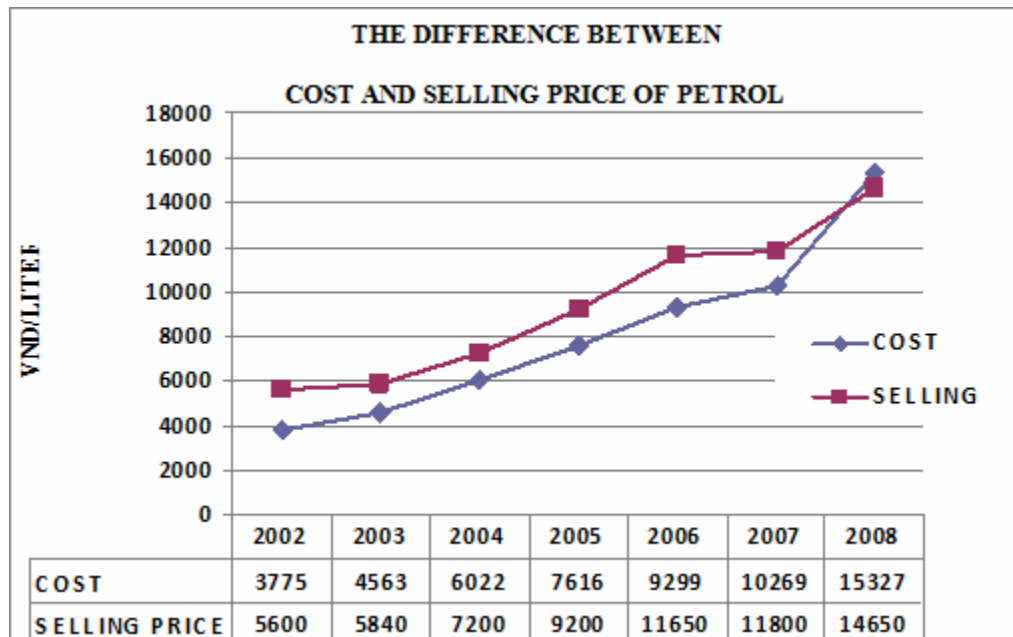


Fig 3.1.7. The cost and selling price of petrol

In the periods from 2002 to the first half of 2008, the average selling price of petrol inland also increased fast and it was not less than world oil (petrol) price. Because petrol field does not have the subsidy fund as oil field, petrol price must increase to maintain the profit. The selling price of petrol must be higher than the import petrol price, from 1200 VND/liter to 2300 VND/liter, equivalent 30% - 40%. However, over surveying the petrol market, the average import petrol price is very high in the first six month 2008, more than 15300 VND/liter. Vietnamese consumer is very difficult to adapt this situation immediately. So that the temporary method of the companies in general, or Petrolimex in particular is still to increase petrol price within the permission range, so in this time, the average selling price is lower than the cost of imported petrol is 677 VND/liter, this is the reason to lead the Petrolimex to be lost at this period.

3.1.8. The difference between cost and selling price of oil

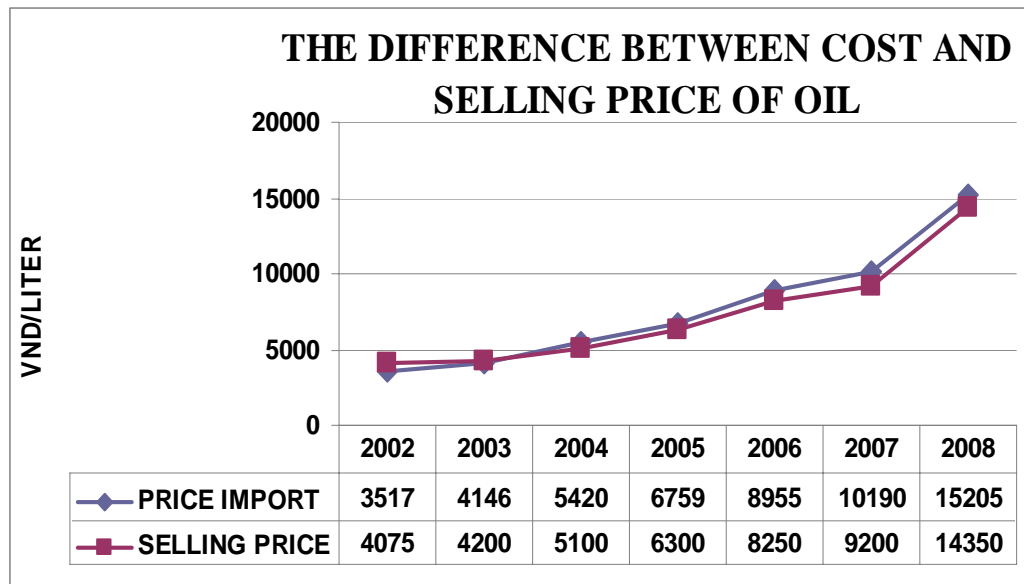


Fig 3.1.8 . The cost and selling price of oil

2002 – 2003, the selling price was higher than import price because the government did not have the subsidy policy, 2004 – 2008 in this period the retail selling price was lower than the import price (105% – 110 %), thus the petrol companies have to sell at loss because the oil price of the world has the complicated change and will increase in the future, for this reason the government has the subsidy policy to the petro companies to ensure the profit. We can analysis the period of Petrolimex from 2004 to first six months 2008, the 2004 the petrol import tax was 10%, but after one year and based on the reports of the petrol companies, the government decided reduce the tax from 10% to 5% in 2005 to reduce pressure for petrol companies. In 2006 for reducing the contraband through Vietnam and Campodia border, the government decided to increase the tax; it leaded to increase the selling price in the market. But the world had a big change about the price of petro from 2007 to first six months of 2008, the price of petro was higher and extraordinary in first six months of 2008, so that the government decided to reduce the tax to 5% (2007) and now it is 0%.

3.1.9. Total cost of Petrolimex

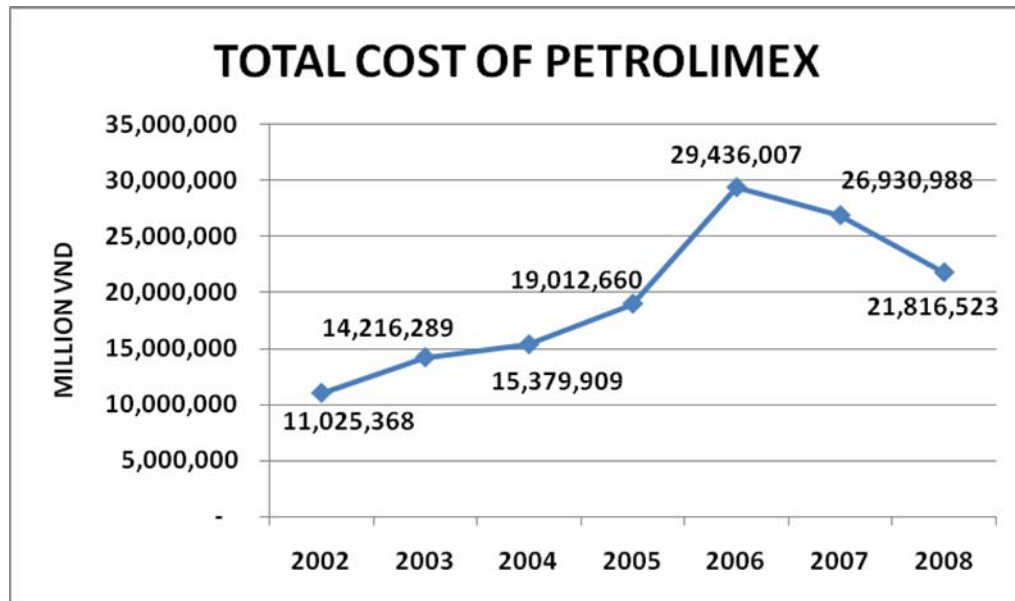


Fig 3.1.9. The total cost of Petrolimex

Generally, the total cost of of Petrolimex in 6 years and the second quarter of 2008 is 137,817,744 million VND. In the first half of 2008, the cost raised 10,791,155 million dong (increase 97.88% to compare with 2002).

In 2006, total cost of petrol had unusual change. The main reason was the import tax in this year raise up to 20%, much higher than last some years.

Finally, average increase cost level of petrol is 12% (rising up to 1,323,044 million dong) every year.

3.1.10. Profit obtained from selling petrol of Petrolimex

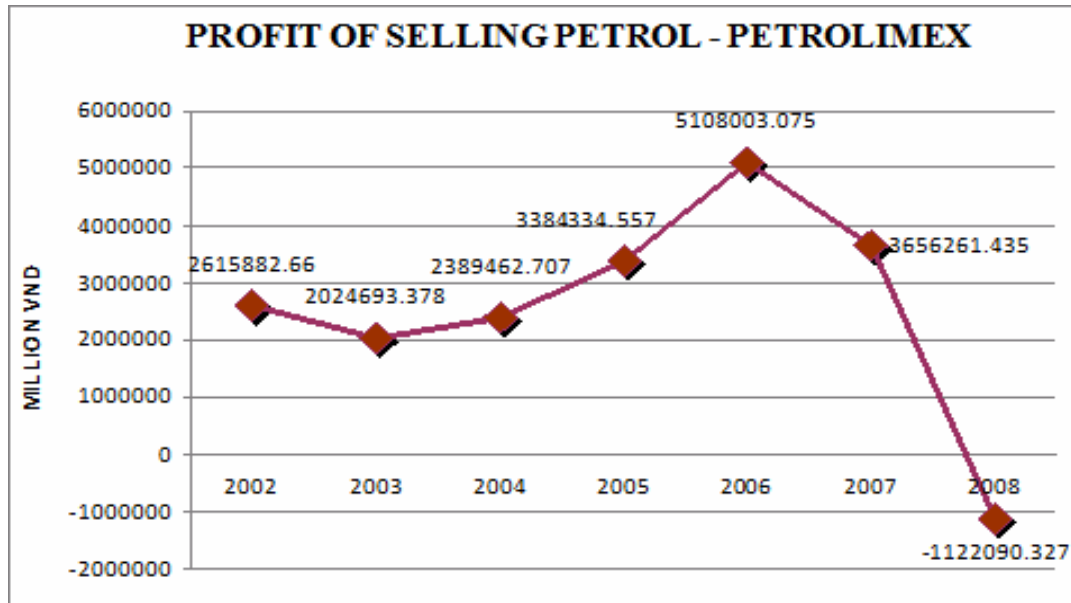


Fig 3.1.10. The profit obtained from selling petrol of Petrolimex

From 2002 to the first six months of 2008, considered throughout situation, the field of Petrolimex as the whole brought the big profit for general company. Annual average revenue was from 15000 to 25000 billion VND. The import quantity and petrol price have increased regularly over the years. To maintain the revenue, government permitted the companies to increase the selling price as the stipulated clauses. Thus, average profit from petrol sales of Petrolimex followed up from 2000 billion to 3500 billion VND, the highest profit was 5000 billion VND in 2006. However, the first six months 2008, import petrol price was 15.327 VND/ liter, this price was higher 730 VND/liter to compare with the selling price on the market.

3.1.11. The profit from selling oil and subsidy of government

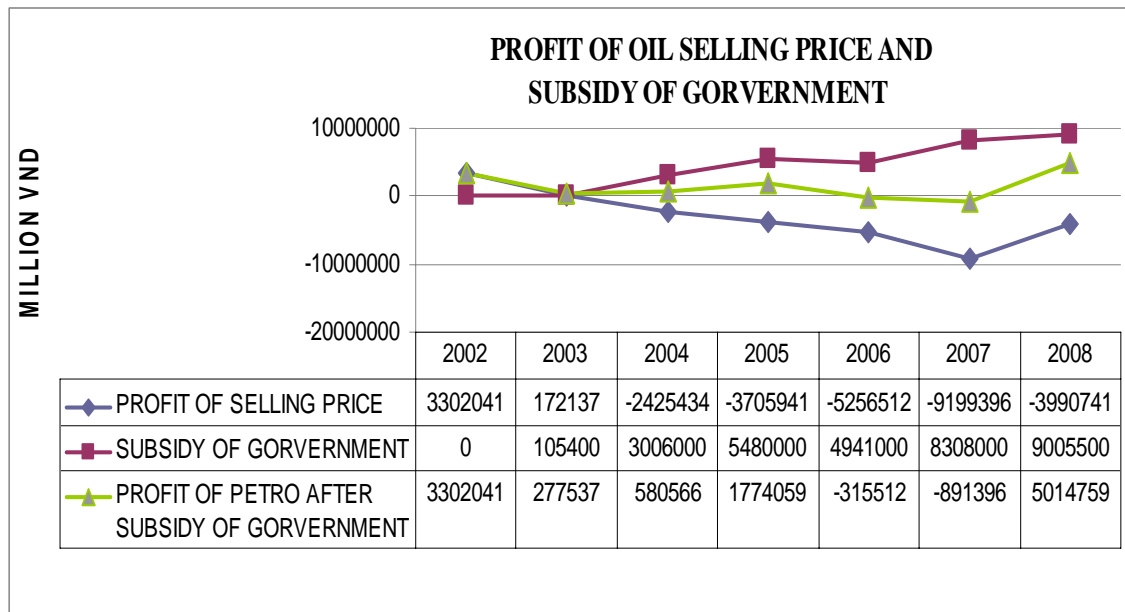


Fig 3.1.11. The profit from selling oil and subsidy of government

This is the graph that shows the profit in oil field of Petrolimex before and after company was subsidized by government. In 2002, Petrolimex had profit more than 3300 billion dong. From 2003 to the first six months of 2008, the government had to pay 31000 billion VND to subsidy for Petrolimex's oil trading. Petrolimex makes up 60% market. In 2002 and 2003, each year the average loss of Petrolimex was up from 2500 billion to 7000 billion VND. Because the total import cost per oil liter was higher than, from 350 to 900 VND/ liter to compare with the selling price on the market, we have one big question: what happen if government did not subsidize? The government had the timely decision in this event, each year Petrolimex was subsidized averagely from 3000 to 8000 billion VND. The first half of the year 2008, the government subsidized 9000 billion VND for Petrolimex because crude oil on the word increased to 113USD/barrel. So, the average oil profit was rather high. However, throughout the information we knew that that government could not subsidize Petrolimex because the national subsidy fund was limited in 2006 and 2007. Thus, the loss of Petrolimex was rather 315 billion VND in 2006 and rather 891 billion VND in 2007.

3.2. Evaluating business results of Petrolimex

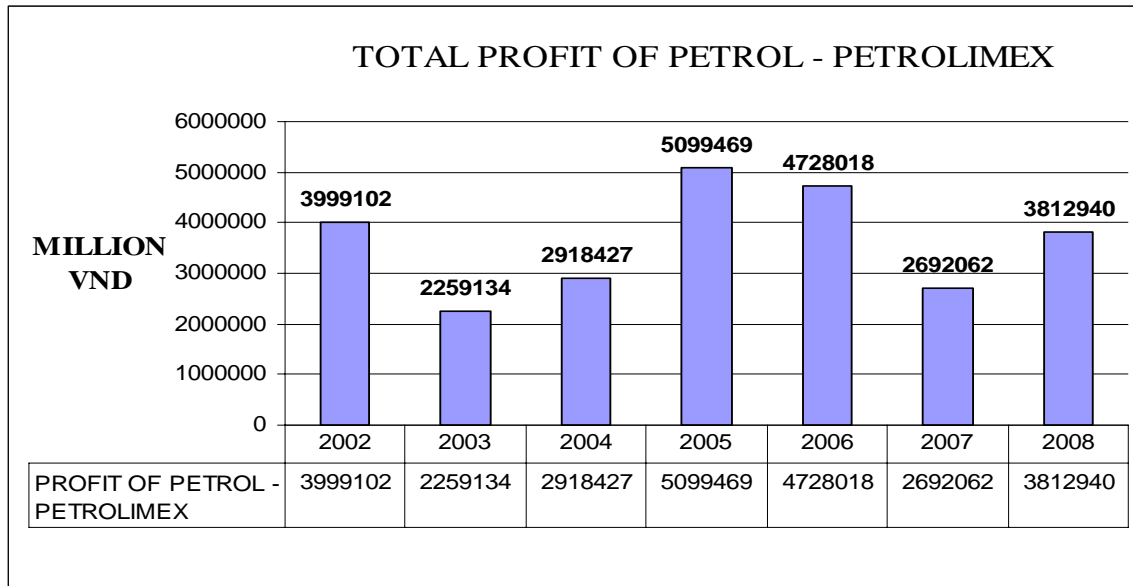


Fig 3.2. Total profit of Petrol - Petrolimex

From 2002 to the first six months of 2008, we can see that the year 2002 was the most successful year for the business of Petrolimex. Both petrol and oil had the huge profits. In 2002, the total volume oil (petrol) was imported by petrol was 5.682 million tons and Petrolimex had profit of 5881.032 billion VND. In which, the petrol profit was 2615.883 billion VND, the oil profit was 3302.041 billion VND. After, Petrolimex paid 32% to the government's budget, this company still had big profit nearly 4000 billion VND.

Petrolimex still had big profit in 2003. But this profit only was 56.5% to compare with 2002, and decreased 43.5% to compare with the last year. The total volumes of oil (petrol) were imported by petrol in 2003 which increased 14.25% to compare with 2002. As the researched business result, in 2003 Petrolimex had the profit was 2259.134 billion VND (In which, the profit of petrol was 2024.693 billion). In this year, the company did not pay to the government's budget, but throughout learning about, the Petrolimex was subsidized for petrol 105 billion VND by the government.

The Petrolimex business lost from 2004 to first six months 2008. In 2004, the total volume of petrol was imported by Petrolimex which was 6.606 million tons. The total profit of petrol trading was 2389.463 billion VND in 2004 but the oil sales was lost 2425.434 billion VND. The subsidy from government was higher than Petrolimex loss, thus the total profit from petrol was 2918.427 billion VND in 2004.

In 2005, Petrolimex was really successful in Petrol field. The Petrol price increased averagely to be 27.8% in comparison with the last year (in the 2004, the average Petrol price was 9200 VND/ liter). The profit from petrol was 3384.335 billion VND; it increased 42% to compare with 2004. However, Petrolimex was lost in oil field, in 2005. The average expense of one import oil liter was 6760 VND/litter but the selling price after discount was only 6205 VND/liter. Thus, one oil liter was lost more than 500 VND. In 2005, the loss from oil trading was 3706 billion VND however the subsidy from government was 5480 billion VND. The total profit from petrol was 5099.469 billion in 2005. It is highest profit in the period from 2002 to six months 2008. In 2006, imported Petrol was approximately 1.66 million tons, expense of one liter was 9300 dong/liter and list selling price in the market, average was 11600 VND/liter.

The total profit from petrol was 5100 billion VND, this level was highest in this year. This period, the loss from oil trading was nearly 5256.512 billion VND - and increased 42% to compare with 2005 because selling price per liter on the market was only equal 90% with import cost per liter, from datum we found. The subsidy from government was 4728 billion VND in 2006. Thus, the total Petrolimex's profit was 4728.018 billion VND. The total profit from petrol and oil was 2692.062 billion VND in 2007. In which, the profit of petrol was the main of total profit of Petrolimex. Contrary to the petrol field, the oil had the big loss in this year to compare with the period from 2002 to the first six months of 2008. The cost per liter import oil was 10200 VND while the selling price was 9100 VND/liter, equal to 89% of cost. So, in 2007, Petrolimex was lost 9200 billion VND, it increased approximately 34.4% in comparison with 2006.

Since the subsidy from government was 8030 billion VND, the oil trading activity could not have profit. Based on the business result in the first six months 2008, Petrolimex had the huge loss because oil price in the world increased highly. In the petrol field appeared the first loss in last some years. The expenses per liter of petrol was 15330 VND but the selling price is 14300 VND/liter, thus the loss of the oil business was nearly 4000 billion dong in the first six months of 2008. The government helped this company and subsidized over 9000 billion dong. Hence, the profit of Petrolimex was 3812.94 billion VND.

3.3. Applying mathematical methods in prediction

3.3.1. Estimate the amount of petrol imported in the last six months 2008

Use the curve expert to make the function of the import petrol quantity from the data aligned.

2002	1	1.77	2006	17	2.45
	2	2.18		18	2.88
	3	2.5		19	2.9
	4	3.02		20	3.01
2003	5	2.28	2007	21	3.2
	6	2.35		22	3.7
	7	2.59		23	3.25
	8	3.6		24	3.75
2004	9	2.6	2008	25	3.58
	10	2.87		26	3.52
	11	2.84			
	12	2.7			
2005	13	2.8			
	14	2.83			
	15	2.97			
	16	3.16			

Table 3.3.1.1. Amount of petrol imported from 2002 to the first six months 2008

The best fitted curve of the quantity function is shown below (figure 3.3.1)

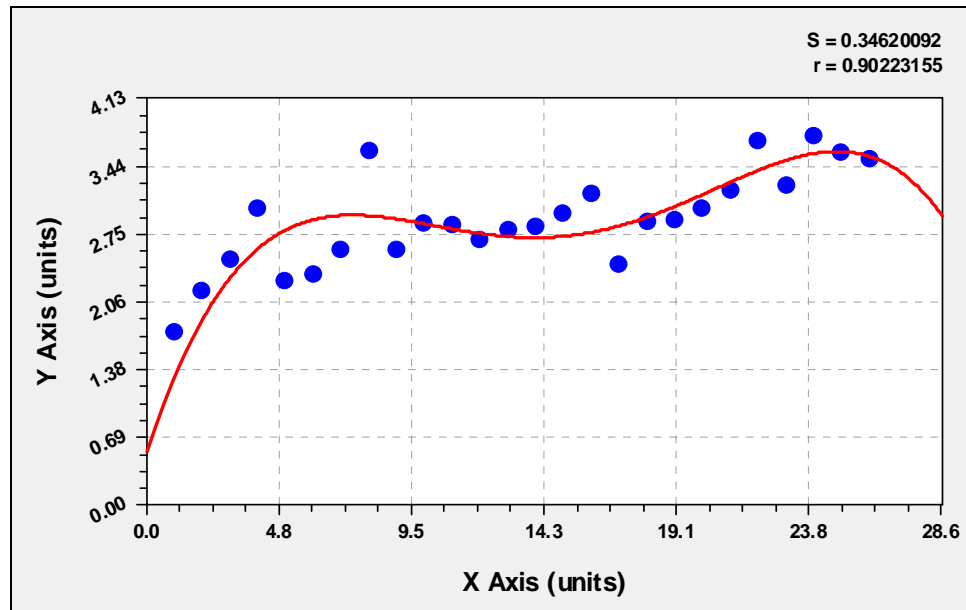


Fig 3.3.1. The best fitted curve of the quantity function

4th degree polynomial fit: $y = a + bx + cx^2 + dx^3 + ex^4$

Coefficient data: $a = 0.54248465$, $b = 0.86707872$, $c = -0.10735404$

$d = 0.005225704$, $e = -8.50E-05$

The approximate function models the data:

$$y = -0.000084961138x^4 + 0.0052257042x^3 - 0.10735404x^2 + 0.86707872x + 0.54248465$$

From this model, we can forecast the amount of import petrol and oil in quarter 3rd and quarter 4th of 2008 as follow:

$x = 27 \rightarrow y = 3.398$
$x = 28 \rightarrow y = 3.15$

According to the result above it follows that: in quarter 3rd 2008 the amount of the import petrol and oil is 3.398 (million tons) and in quarter 4th 2008 the import quantity petrol and oil is 3.15 Million tons.

With the data we can forecast, we can calculate total amount of petrol and oil will import in 2008. This is a table of datum about amount the imported petrol and oil from 2002 to 2008 of Vietnam and Petrolimex.

	Vietnam	Petrolimex
2002	9.47	5.682
2003	10.82	6.492
2004	11.01	6.606
2005	11.76	7.056
2006	11.24	6.744
2007	13.9	8.34
2008	13.648	8.1888

Table 3.3.1.2 *Amount of petrol and oil from 2002 to 2008 of Vietnam and Petrolimex*

3.3.2. The forecast of the import oil and petrol price

3.3.2.1. The estimation of the import oil price

We use the curve expert to make equation of the amount of import oil.

Aligning data: See table 3.3.2.1.

2002	2	22 (tons)
2003	3	26.67
2004	4	39.5
2005	5	49.73
2006	6	61.05
2007	7	73.9
the first six month 2008	7.5	113
	7.583	105
	7.666	93.7
	7.75	86

Table 3.3.2.1. *The datum of the import oil price from 2002 to quarter 3rd 2008*

The best fitted curve that models the data in table 3.3.2.1 is shown below (figure 3.3.2)

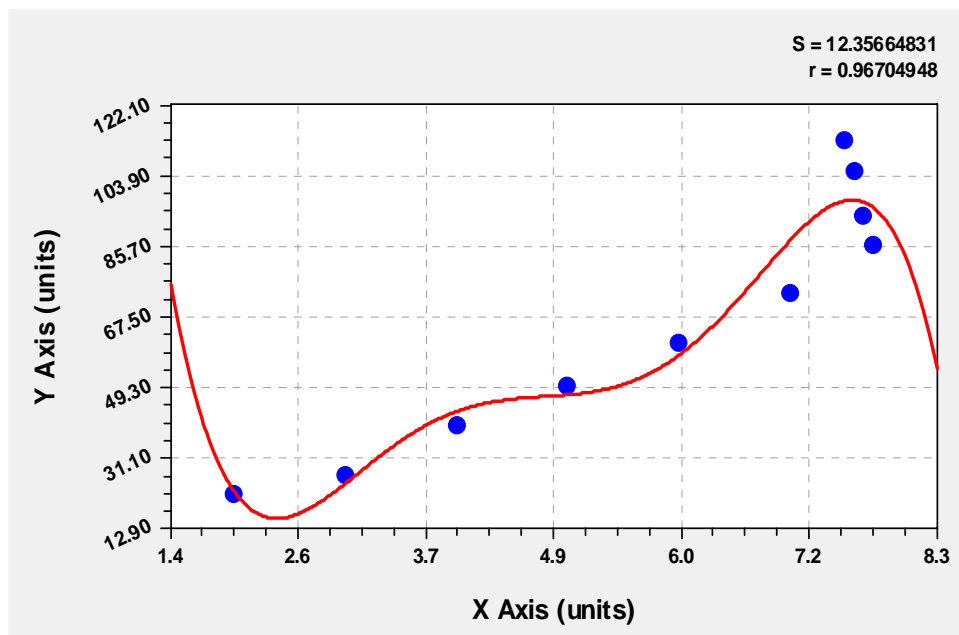


Fig 3.3.2.1. *The best fitted curve of the import oil price*

5th Degree Polynomial Fit: $y = a + bx + cx^2 + dx^3 + ex^4 + fx^5$

Coefficient Data:

$a = 782.17846$, $b = -990.09852$, $c = 479.03707$, $d = -108.32945$, $e = 11.63258$,

$f = -0.47658114$

$$y = -0.47658114 x^5 + 11.63258 x^4 - 108.32945 x^3 + 479.03707 x^2 - 990.09852 x + 782.17846$$

For $x = 8$ it gives $y = 85.5212$

Thus the oil price in the last quarter of 2008 is approximate 85.5212 USD/barrel

3.3.2.2. Estimate the import petrol price

Aligning data see bellow (table 3.3.2.2)

2002	2	23.7
2003	3	29.5
2004	4	44.08
2005	5	56.35
2006	6	63.5
2007	7	74.5
the first six month 2008	7.5	113.94
	7.583	107.6
	7.666	94.8
	7.75	88

Table 3.3.2.2. The import petrol price from 2002 to 3rd quarter 2008

Following is the curve fitted from the datum in table 3.3.2.2

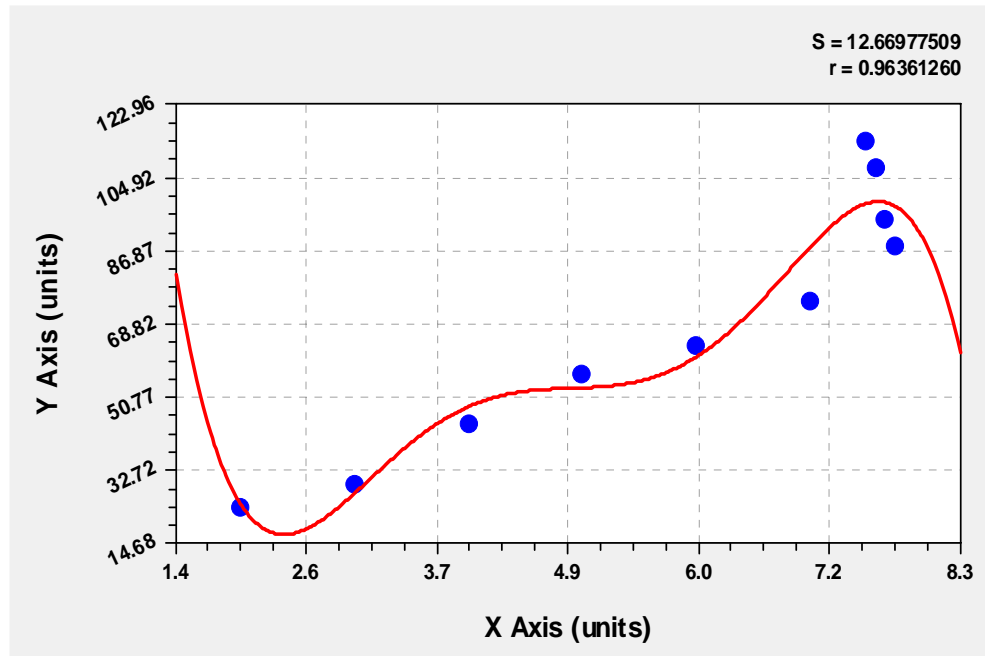


Fig 3.3.2.2. The best fitted curve of the import petrol price

Following is an approximate function of the import Petrol price:

5th Degree Polynomial Fit: $y = a + bx + cx^2 + dx^3 + ex^4 + fx^5$

Coefficient Data:

$a = 830.25999$, $b = -1044.9822$, $c = 501.59654$, $d = -112.19033$, $e = 11.897636$

$f = -0.48139202$

$$y = -0.48139202 x^5 + 11.897636 x^4 - 112.19033 x^3 + 501.59654 x^2 - 1044.9822x + 830.25999$$

For $x = 8 \rightarrow y = 89.595$

Thus the petrol price in the last quarter months of 2008 is about 89.595USD/barrel

4. Conclusion

Throughout the research processing, and making a study of business activities of Vietnam National Petroleum Corporation from 2002 to the first six months of 2008, we obtained the best results in many fields. We can define that Petrolimex is still the biggest Petrol Organization in Vietnam, nowadays. By 100% state-owned capital and taking 60% of market shares – the main source of nation, Petrolimex will always try to maintain and develop their business obviously.

Through these results, we can approach the petrol situation of Vietnam from another view. From 2002 to the first six months 2008, Vietnam has maintained and satisfied for the demand in nation although the petrol price has many changes disadvantageously. As the forecast above, the oil price will be instable in the future and its price movement surely runs in instability.

The time that we began in research processing was the period which had the most fluctuation of the Vietnam National Petroleum Corporation. Petrolimex has experienced a long time of rising and falling together with the fluctuations of the world energy market. Through the obtained results, we recognize easily that the business situation of Petrolimex is still stable and remaining their profit through each year. However, in order to have the result like this, the government had the policies to subsidize in all aspects , it was not only applied for Petrolimex but also for other petrol trading companies such as decreasing import tax, subsidizing petrol products... because of these reasons, Petrolimex still have the huge profits to maintain their business situation in the future.

